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SUMMARY

of the

REPORT OF THE IN-DEPTH REVIEW OF THE NATIONAL COMMUNICATION

of

FINLAND

(The full text of the report (in English only) is contained in document FCCC/IDR.1/FIN)

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Summary[1]

1. The in-depth review was carried out during the period January to September 1996 and included a visit to Helsinki from 29 January to 2 February of that year. The team included experts from Thailand, the United Kingdom of Great Britain and Northern Ireland and the Russian Federation. Finland ratified the Convention on 31 May 1994 and submitted its first national communication under the Convention in January 1995. Additional information was made available to the team during the country visit.

2. Finland has a cold climate with corresponding heating needs. The considerable energy-intensive industry is largely based on the forest, which covers more than two thirds of the country. Nuclear and hydro power is used for 50-60 per cent of the electricity generation. A biomass utilization constituting 15 per cent of the energy balance is the highest among countries of the Organisation for Economic Co-operation and Development (OECD) and non-fossil fuels in total represent about 35 per cent of the energy balance. Finland's regular electricity import peaked in 1990 at 17 per cent of consumption. Scattered population and long distances to the export markets generate considerable transport needs. Carbon dioxide (CO_2) emissions per capita (11-12 tonnes) were around the OECD average in 1990, which is high in a Western European context. In the first half of the 1990s, Finland experienced one of the most severe recessions in the OECD countries.

3. The team found the inventories to be transparent, and considered that Finland had used the Intergovernmental Panel on Climate Change (IPCC) methodology in a way appropriate to Finnish conditions. The few deviations due to statistical shortcomings were appropriately described. Finland provided inventories for the three main greenhouse gases as well as the indirect ones. CO_2 represented 82 per cent of 1990 emissions, methane (CH_4) about 8 per cent and nitrous oxide (N_2O) about 10 per cent. Hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride were not covered in the communication, but these were estimated for 1994 in the inventories for 1992-1994 submitted in spring 1996, showing zero or very small emissions. There have also been some revisions in methodologies for CH_4 and N_2O compared to the communication. The land-use change and forestry sector makes a relatively large contribution, with net carbon sequestration in forests estimated as equivalent to more than half of the 1990 CO_2 emissions, and considerable net CO_2 emissions coming from cultivated peatlands and non-viable drainage areas as well. The team noted that, despite the history of relatively detailed assessment of the emissions and removals in that sector, the uncertainties are still considerable.

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[1] In accordance with decision 2/CP.1 of the Conference of the Parties, (see FCCC/CP/1995/7/Add.1), the full draft of this report was communicated to the Finnish Government, which had no further comments.

4 Finland has successfully introduced energy efficient technologies such as district heating, which covers 45 per cent of the heat supply, and combined heat and power (CHP), which currently supplies 30 per cent of the electricity. Because of the climatic conditions, measures such as strict insulation standards for walls and windows (triple glazing) have been in place for a long time. In 1990, Finland was the first country to apply a CO_2 tax, currently (1996) equivalent to about US$ 8.5 per tonne of CO_2. It has the most complete coverage of sources among those countries applying such an instrument, while the rate is lower than in some of them. As a consequence of joining the European Union and the fact that other countries do not have a similar tax structure, it will be changed in 1997, in particular for electricity, to become more indirect and will thus also be potentially less environmentally effective. Finland also has a number of programmes on energy efficiency and renewables, in particular biomass, that are described in the communication. In general, the budget situation has affected the funding of these programmes negatively.

5 The CO_2 projections in the communication were under revision at the time of the team's visit, to reflect, *inter alia*, historic economic developments and recent developments in the energy sector. The emissions are likely to grow considerably, but less than the 30 per cent suggested in the "with measures" projection in the communication, owing to continued imports of electricity and lower economic growth. Prospects for extending the use of district heating, CHP and hydropower are limited, while biomass could still offer some economic potential. In the longer term, self-sufficiency in electricity, the future of nuclear power (in which connection the parliament has rejected a proposal to build a fifth plant), the availability of natural gas, as well as the growth and choice of technologies in the forest-related industry remain crucial determinants. An additional uncertainty in both directions is related to the effects of deregulation of the electricity market. After a downturn caused by the recession, CO_2 emissions were 8 per cent higher in 1994 than in 1990, but for 1995 they were at the 1990 level. Forests are expected to remain a net carbon sink for decades, but the magnitude will depend on the degree of wood use, as illustrated in the communication. A significant drop in methane emissions of about 20 per cent, mainly thanks to measures in the waste sector, is expected between 1990 and 2000, but will have to be achieved in the last part of the decade. Nitrous oxide emissions are expected to grow, mainly owing to the application of catalytic converters to reduce local and regional pollution.

6 Finland has already adapted to major climate variability. Assessments of the impacts of climate change have been made, in particular for the economically important forest sector. A considerable amount of research has been carried out through a comprehensive programme specifically devoted to climate change between 1990 and 1996. The team noted the extensive documentation that had been produced on the programme for an international audience. This programme was seen as a targeted effort limited in time, and climate change related research is now funded through traditional channels. There has also been considerable research and development on technological mitigation options, in particular for the energy sector, as described in the communication. Finland cooperates in international research and development, which is particularly useful for a small country. Such activities in the European

Union are seen as increasingly important. There are also initiatives related to education, training and public awareness.

7. Finland contributed US$ 20.6 million to the Global Environment Facility (GEF) in its pilot phase and is contributing US$ 21.7 million to the first replenishment. This is in addition to the country's official development assistance (ODA), which dropped from 0.7 per cent of gross domestic product (GDP) in 1991 to 0.4 per cent in 1995, because of the financial situation. The Government is, however, committed to restoring the previous level when the recession is considered over. Finland is also funding a considerable number of projects in countries with economies in transition. At the time of the team's visit, there were no projects for consideration as activities implemented jointly under the pilot phase.